REMARKS/ARGUMENTS

This application is a divisional of earlier application Serial No. 09/964,361. The subject matter defined by the above claims is not being examined in the parent application. New claims 46-86 correspond to claims 46-67, 74-84 and 86-93, respectively of the parent application.

Of the claims presented above the examiner in the parent application indicated claims 57, 64 and 65 (the same claim numbers as above) were allowable if written in independent form; *see* the Official Action of June 12, 2003, Paper No. 8.

The examination of the parent application focused primarily on a single reference and to facilitate further examination of this application, the following comments, observation and argument are presented:

Resorbable silicon, as defined in the present application, is silicon which degrades over time to be replaced by natural host tissue (page 17, lines 5 to 7). Bioactive silicon is silicon that, when in vivo, elicits the formation of a bond between living tissue and the material (page 1, lines 10 to 12).

Cited during the examination of the parent application was U.S. 4,623,355 to Sawruk ("US '355" herein). US '355 does not describe the erosion of silicon to be replaced by host tissue, and it does not describe bond formation between silicon and the host tissue. Instead, US '355 describes monocrystalline silicon disc having pores formed in it, and it also describes a silicon disc fabricated from polycrystalline silicon (column 2, lines 38 to 39 and column 1, lines 57 to 60).

However, not all monocrystalline silicon having pores is bioactive or resorbable. For example, macroporous silicon is bioinert (see applicant's specification at page 13, lines 10 to 13). Not all polycrystalline silicon is bioactive or resorbable. For example, no bioactivity or resorption is reported for polycrystalline silicon deposited at 570°C (page 21, lines 18 to 27). Therefore US '355 does not disclose resorbable or bioactive silicon

and the independent claims contained in the divisional application are novel with respect to this document.

Applicant's claims are also non-obvious. US '355 describes silicon that is relatively inert (column 2, lines 38 to 39). The pores of the US '355 implant are lined with gold or platinum (column 1, lines 57 to 60), it is surrounded by a protein based gel (column1, lines 60 to 62), and an outer layer comprising a hydrophilic polymer may be added in order to minimize fibrosis (column 3, lines 13 to 17).

For a substance to be bioactive it has to be capable of forming a bond with tissue; for it to be resorbable it has to be capable of being eroded and replaced by tissue. Bioactive and resorbable silicon are of value as a result of their ability to interact with host tissue. They are not inert, and do not need to be coated with metals, proteins, or polymers, before implantation.

In other words, the inert properties of the US '355 silicon and the fact that it has to be separated from the host tissue by a variety of layers, would lead the skilled person away from the claimed invention.

It follows that independent claims contained in the divisional application are not obvious with respect to US '355.

In support of the fact that not all forms of porous silicon are bioactive/resorbable attention is directed to experimental results disclosed in the present application. These results show that not all forms of porous silicon are bioactive/resorbable. The results presented in the original specification accompanied by the executed declaration signed by the inventors have significant evidentiary weight, comparable to the weight given to an executed declaration. The results presented in the original declaration are not mere arguments. It is well established by the Federal Circuit that "the examiner must consider comparative data presented in the specification which is intended to illustrate the claimed invention in reaching a conclusion in regard to the obviousness of claims." *In re Margolis,* 785 F.2d 1029, 228 U.S.P.Q. 1123, 1129 (Fed. Cir. 1993).

Further, there is no evidence to show that the silicon of US '355 is identical or substantially identical to the resorbable silicon or the bioactive silicon of the present invention.

Examination of claims 46-86 on the merits is awaited taking into account the Information Disclosure documents accompanying this filing.

Respectfully submitted,

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